

IN THE CLAIMS:

Claims 1 through 26 have been amended herein. All of the pending claims 1 through 26 are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

Listing of Claims:

1. (Currently amended) A semiconductor die assembly comprising:
a semiconductor die having a plurality of bond pads on an active surface thereof;
a lead frame having at least a first group of lead fingers and a second group of lead fingers to
respectively extend from first and second opposing sides of ~~said~~ the semiconductor die
attached to a die-attach location on ~~said~~ the lead frame to another, single side of ~~said~~ the
lead frame in a substantially mutually parallel configuration;
a first voltage reference plane adjacent to ~~said~~ the first side of ~~said~~ the semiconductor die, ~~said~~
the first voltage reference plane having a portion positioned between a surface of ~~said~~ the
semiconductor die and ~~said~~ the first group of lead fingers extending from ~~said~~ the first
side of ~~said~~ the semiconductor die toward ~~said~~ the another, single side of ~~said~~ the lead
frame; and
a second voltage reference plane adjacent to ~~said~~ the second opposing side of ~~said~~ the
semiconductor die, ~~said~~ the second voltage reference plane having a portion positioned
between ~~said~~ the surface of ~~said~~ the semiconductor die and ~~said~~ the second group of
lead fingers extending from ~~said~~ the second opposing side of ~~said~~ the semiconductor die
toward ~~said~~ the another, single side of ~~said~~ the lead frame.
2. (Currently amended) The assembly of claim 1, wherein ~~said~~ the lead frame
comprises a vertical surface mount package configuration.

3. (Currently amended) The assembly of claim 1, wherein ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane are adhered to at least some of the lead fingers of ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers, respectively.

4. (Currently amended) The assembly of claim 3, wherein ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane are adhered directly via a non-conductive adhesive to ~~said~~ the at least some of the lead fingers of ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers, respectively.

5. (Currently amended) The assembly of claim 1, further comprising a packaging material encapsulating at least ~~said~~ the active surface of ~~said~~ the semiconductor die.

6. (Currently amended) The assembly of claim 5, wherein ~~said~~ the packaging material at least partially covers ~~said~~ the first and ~~said~~ the second voltage reference planes and ~~said~~ the first and ~~said~~ the second groups of lead fingers.

7. (Currently amended) The assembly of claim 1, wherein ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers are attached to ~~said~~ the semiconductor die in a lead-over-chip configuration.

8. (Currently amended) The assembly of claim 1, wherein ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers are attached to ~~said~~ the semiconductor die in a lead-under-chip configuration.

9. (Currently amended) The assembly of claim 1, wherein ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane are electrically connected to at least one lead finger of ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers, respectively, which in turn is connected through a bond pad to a reference potential of ~~said~~ the semiconductor die.

10. (Currently amended) The assembly of claim 1, wherein at least one of ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane includes a plurality of projections extending outwardly from a surface of ~~said~~ the at least one of ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane.

11. (Currently amended) The assembly of claim 10, further comprising a packaging material extending over at least one of ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane, wherein ~~said~~ the projections extend through ~~said~~ the packaging material.

12. (Currently amended) The assembly of claim 11, wherein ~~said~~ the projections extend through ~~said~~ the packaging material to an exterior surface thereof.

13. (Currently amended) The assembly of claim 1, wherein ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane are of sufficient mass to measurably alter heat transfer characteristics of ~~said~~ the assembly.

14. (Currently amended) The assembly of claim 1, further comprising a packaging material encapsulating ~~said~~ the assembly so that only outer ends of ~~said~~ the at least ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers extend therethrough.

15. (Currently amended) The assembly of claim 1, wherein ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane extend over at least about fifty percent of a surface area of ~~said~~ the at least ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers, respectively.

16. (Currently amended) The assembly of claim 1, wherein ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference are separated from ~~said~~ the at least ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers, respectively, by an insulating adhesive structure.

17. (Currently amended) The assembly of claim 16, wherein ~~said~~ the insulating adhesive structure comprises an insulating film having an adhesive on opposing surfaces thereof, one surface of ~~said~~ the opposing surfaces being adhered to at least one of ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers and another surface of ~~said~~ the opposing surfaces being adhered to at least one of ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane.

18. (Currently amended) A vertical surface mount lead frame to be assembled to a semiconductor die, comprising:
a lead frame having at least a first group of lead fingers and a second group of lead fingers to respectively extend from first and second opposing sides of an intended die-attach location to another, single side of ~~said~~ the lead frame in a substantially mutually parallel configuration;
a first voltage reference plane in immediate proximity to ~~said~~ the first group of lead fingers and in electrical isolation therefrom, ~~said~~ the first voltage reference plane extending across at least a turning portion of ~~said~~ the first group of lead fingers extending from ~~said~~ the first side of ~~said~~ the intended die-attach location toward ~~said~~ the another, single side of ~~said~~ the lead frame;

a second voltage reference plane in immediate proximity to ~~said~~ the second group of lead fingers and in electrical isolation therefrom, ~~said~~ the second voltage reference plane extending across at least a turning portion of ~~said~~ the second group of lead fingers extending from ~~said~~ the second opposing side of ~~said~~ the intended die-attach location toward ~~said~~ the another, single side of ~~said~~ the lead frame; and
an intervening neck extending across ~~said~~ the another, single side of ~~said~~ the lead frame and conductively connecting ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane.

19. (Currently amended) The assembly of claim 18, wherein ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane are adhered to at least some of the lead fingers of ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers, respectively.

20. (Currently amended) The assembly of claim 19, wherein ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane are adhered directly via a non-conductive adhesive to ~~said~~ the at least some of the lead fingers of ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers, respectively.

21. (Currently amended) The assembly of claim 18, wherein ~~said~~ the lead frame includes a die-attach paddle to which ~~said~~ the semiconductor die is attached.

22. (Currently amended) The assembly of claim 18, wherein ~~said~~ the die-attach location comprises a die-attach paddle.

23. (Currently amended) The assembly of claim 18, wherein at least one of ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane includes projections extending away from a direction of ~~said~~ the immediate proximity of ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers, respectively.

24. (Currently amended) The assembly of claim 18, wherein ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane extend across at least about fifty percent of a surface area of ~~said~~ the at least ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers, respectively.

25. (Currently amended) The assembly of claim 18, wherein ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference is separated from ~~said~~ the at least ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers, respectively, by an insulating adhesive structure.

26. (Currently amended) The assembly of claim 25, wherein ~~said~~ the insulating adhesive structure comprises an insulating film having an adhesive on opposing surfaces thereof, one surface of ~~said~~ the opposing surfaces being adhered to at least one of ~~said~~ the first group of lead fingers and ~~said~~ the second group of lead fingers and another surface of ~~said~~ the opposing surfaces being adhered to at least one of ~~said~~ the first voltage reference plane and ~~said~~ the second voltage reference plane.

IN THE DRAWINGS:

The attached sheet of drawings includes a change to FIG. 1B. This sheet, which includes FIGS. 1, 1A and 1B, replaces the original sheet including FIGS. 1, 1A and 1B.

Specifically, FIG. 1B has been revised to change the reference numeral "112" to --162-- to eliminate redundancy with previously used reference numerals. No new matter has been added.